




# CITY OF COLUMBIA, MISSOURI

WATER AND LIGHT DEPARTMENT  
COLUMBIA TERMINAL RAILROAD

## MEMORANDUM

TO: Water and Light Advisory Board

FROM: Tad Johnsen, Water and Light Director 

DATE: January 28, 2013

SUBJECT: APPA DEED grant award

The American Public Power Association's Demonstration of Energy-Efficient Developments (DEED) Program is the only research and development program funded by and for public power utilities. Established in 1980, DEED encourages activities that promote energy innovation, improve efficiencies and lower costs of energy to public power communities.

The Water and Light staff submitted an application for an American Public Power Association Demonstrated Energy Efficiency Development grant in the spring of 2012. Staff was notified in mid-May that the \$25,000 requested for the Biomass Combined Heat and Power Feasibility Study had been reviewed by American Public Power DEED committee and was approved at the spring APPA meeting. Water and Light and APPA did not enter into the grant agreement at that time due to the ability to identify a specific agricultural biomass stream for said project. The project concept was valid but there were additional necessary steps to attain the project analysis.

Since that time, Water and Light staff and the APPA DEED board have discussed an alternative use of the grant funds. On January 9, 2013, the two parties agreed to an addendum to the original grant. The addendum outlines necessary and valid steps which will be reimbursable by the grant funds. The deliverables outlined in the addendum will allow CW&L and a biomass collaborative group represented by the Missouri Corn Growers to get to the next phase of biomass development which will ultimately include the potential for a biomass powered CHP project.

Please see the attached agreement from APPA with Addendum as mentioned above. The grant is for \$25,000 and will cover the costs associated with the biomass, permitting engineering analysis of an engineered biomass product built to CW&L specifications. Staff submitted the original application requesting funds to study the potential of a Combined Heat and Power project which would be fueled by biomass. In the original application, CW&L was looking for an additional renewable resource to supplement the locally renewable energy generation, so biomass fuel was selected for the purpose of the grant. In addition, one of the targeted deliverables of the grant was to analyze the potential waste streams from the industries to supplement the biomass feedstocks, diverting these products from the landfill. Food Industry wastestreams are heavily laden with high BTU content. To capture the waste streams from the industrial facilities and use as a fuel source would require a densification process that has not been permitted by the state. This step must be completed first before further investigation can occur. It is better to use an existing asset for this prototype development and analysis before investing in new capital projects. CHP is still a desired renewable energy resource.

CHP is not a single technology, but an integrated energy system that can be designed to meet the needs of the energy end users. CHP provides:

- **Local generation** of electrical and/or mechanical power.
- **Waste-heat recovery** for heating, cooling, dehumidification, or process applications.

- **Seamless system integration** for a variety of technologies, thermal applications, and fuel types into existing building (s) infrastructure. The CHP grant proposes to review multiple industrial customer thermal needs along the Route B corridor.

The next steps are for Water and Light to enter into an agreement with American Public Power Association (APPA) for the receipt of the funds. The grant obligation is for one year and will be subject to full review of the APPA Engineering Committee review in the spring of 2013 at the spring meeting. The intent of Water and Light staff and the biomass collaborative group is to complete the necessary first steps of biomass permitting by March 15, 2013.

**RECOMMENDED ACTION:** Staff requests that the Board approve the grant agreement which will allow for the study and receipt of the \$25,000 grant to occur.